IN THE CLAIMS:

Kindly amend the claims, as follows:

1. (Original) A communication encoding method, comprising:

obtaining initial binary data having a characteristic Hamming weight;

determining the characteristic Hamming weight of the initial binary data;

performing a comparison of the characteristic Hamming weight of the initial binary data with a predetermined value; and

processing the initial binary data based on the comparison to thereby develop processed binary data having a Hamming weight not less than the characteristic Hamming weight of the initial binary data.

2. (Original) The method of claim 1, wherein the characteristic Hamming weight of the initial binary data is determined by counting one-valued bits in the initial binary data.

3. (Original) The method of claim 1, wherein the predetermined value is a predetermined minimum Hamming weight threshold value.

4. (Original) The method of claim 1, wherein processing the initial binary data comprises bitwise inverting the initial binary data if the Hamming weight of the initial binary data is less than the predetermined value.

5. (Original) The method of claim 4, wherein processing the initial binary data further comprises supplying an indication of whether the Hamming weight of the initial binary data is less than the predetermined value.

6. (Original) The method of claim 5, wherein the indication comprises a binary digit having a first value if the Hamming weight of the initial binary data is less than the predetermined value and having a second value otherwise.

7. (Original) The method of claim 4, wherein processing the initial binary data further comprises supplying an indication of whether bits of the processed binary data are inverted.

8. (Original) The method of claim 7, wherein the indication comprises a binary digit having a first value if the bits of the processed binary data are inverted and having a second value otherwise.

9. (Original) The method of claim 1, wherein processing the initial binary data comprises performing at least one of error correction coding, run-length encoding, and precoding.

10. (Original) The method of claim 9, wherein a symbol boundary of an encoded symbol does not change relative to error correction coding.

11. – 23. (Canceled)

24. (Original) A method of communicating data from a source to a destination via a channel, the method comprising:

obtaining initial binary data having a characteristic Hamming weight at the source;

determining the characteristic Hamming weight of the initial binary data;

performing a comparison of the characteristic Hamming weight of the initial binary data with a predetermined value; and

processing the initial binary data based on the comparison to thereby develop processed binary data having a Hamming weight not less than the characteristic Hamming weight of the initial binary data;

conveying the processed binary data from the source to the destination via the channel; and

receiving the processed binary data from the source at the destination and regenerating the initial binary data from the processed binary data.

25. (Original) The method of claim 24, wherein the characteristic Hamming weight of the initial binary data is determined by counting one-valued bits in the initial binary data.

26. (Original) The method of claim 24, wherein the predetermined value is a predetermined minimum Hamming weight threshold value.

27. (Original) The method of claim 24, wherein processing the initial binary data comprises bitwise inverting the initial binary data if the Hamming weight of the initial binary data is less than the predetermined value.

28. (Original) The method of claim 27, wherein processing the initial binary data further comprises supplying an indication of whether the Hamming weight of the initial binary data is less than the predetermined value.

29. (Original) The method of claim 28, wherein the indication comprises a binary digit having a first value if the Hamming weight of the initial binary data is less than the predetermined value and having a second value otherwise.

30. (Original) The method of claim 27, wherein processing the initial binary data further comprises supplying an indication of whether bits of the processed binary data are inverted.

31. (Original) The method of claim 30, wherein the indication comprises a binary digit having a first value if the bits of the processed binary data are inverted and having a second value otherwise.

32. (Original) The method of claim 24, wherein processing the initial binary data comprises performing at least one of error correction coding, run-length encoding, and precoding.

33. (Original) The method of claim 32, wherein a symbol boundary of an encoded symbol does not change relative to error correction coding.

34. – 37. (Canceled)

38. (Original) A communication encoding apparatus, comprising:

a data input for receiving initial binary data having a characteristic Hamming weight; and

a processor in communication with the data input for determining the characteristic Hamming weight of the initial binary data, performing a comparison of the characteristic Hamming weight of the initial binary data with a predetermined value, and processing the initial binary data based on the comparison to thereby develop processed binary data having a Hamming weight not less than the characteristic Hamming weight of the initial binary data.

39. (Original) The apparatus of claim 38, wherein processor determines the characteristic Hamming weight of the initial binary data by counting one-valued bits in the initial binary data.

40. (Original) The apparatus of claim 38, wherein the predetermined value is a predetermined minimum Hamming weight threshold value.

41. (Original) The apparatus of claim 38, wherein the processor bitwise inverts the initial binary data if the Hamming weight of the initial binary data is less than the predetermined value.

42. (Original) The apparatus of claim 41, wherein the processor supplies an indication of whether the Hamming weight of the initial binary data is less than the predetermined value.

43. (Original) The apparatus of claim 42, wherein the indication comprises a binary digit having a first value if the Hamming weight of the initial binary data is less than the predetermined value and having a second value otherwise.

44. (Original) The apparatus of claim 41, wherein the processor further supplies an indication of whether bits of the processed binary data are inverted.

45. (Original) The apparatus of claim 44, wherein the indication comprises a binary digit having a first value if the bits of the processed binary data are inverted and having a second value otherwise.

46. (Original) The apparatus of claim 38, wherein processing the initial binary data comprises performing at least one of error correction coding, run-length encoding, and precoding.

47. (Original) The apparatus of claim 46, wherein a symbol boundary of an encoded symbol does not change relative to error correction coding.

48. – 64. (Canceled)

65. (Original) A computer-readable medium having stored thereon:

a first set of machine-executable instructions for obtaining initial binary data having a characteristic Hamming weight;

a second set of machine-executable instructions for determining the characteristic Hamming weight of the initial binary data;

a third set of machine-executable instructions for performing a comparison of the characteristic Hamming weight of the initial binary data with a predetermined value; and

a fourth set of machine-executable instructions for processing the initial binary data based on the comparison to thereby develop processed binary data having a Hamming weight not less than the characteristic Hamming weight of the initial binary data.

66. (Original) The computer-readable medium of claim 65, wherein the second set of machine-executable instructions determines the characteristic Hamming weight of the initial binary data by counting one-valued bits in the initial binary data.

67. (Original) The computer-readable medium of claim 65, wherein the predetermined value is a predetermined minimum Hamming weight threshold value.

68. (Original) The computer-readable medium of claim 65, wherein the fourth set of machine-executable instructions bitwise inverts the initial binary data if the Hamming weight of the initial binary data is less than the predetermined value.

69. (Original) The computer-readable medium of claim 68, wherein the fourth set of machine-executable instructions supplies an indication of whether the Hamming weight of the initial binary data is less than the predetermined value.

70. (Original) The computer-readable medium of claim 69, wherein the indication comprises a binary digit having a first value if the Hamming weight of the initial binary data is less than the predetermined value and having a second value otherwise.

71. (Original) The computer-readable medium of claim 68, wherein the fourth set of machine-executable instructions supplies an indication of whether bits of the processed binary data are inverted.

72. (Original) The computer-readable medium of claim 71, wherein the indication comprises a binary digit having a first value if the bits of the processed binary data are inverted and having a second value otherwise.

73. (Original) The computer-readable medium of claim 65, wherein processing the initial binary data comprises performing at least one of error correction coding, run-length encoding, and precoding.

74. (Original) The computer-readable medium of claim 73, wherein a symbol boundary of an encoded symbol does not change relative to error correction coding.

75. – 87. (Canceled)

88. (Original) A computer-readable medium having stored thereon machine-executable instructions for communicating data from a source to a destination via a channel, the machine-executable instructions comprising:

a first set of machine-executable instructions for obtaining initial binary data having a characteristic Hamming weight at the source;

a second set of machine-executable instructions for determining the characteristic Hamming weight of the initial binary data;

a third set of machine-executable instructions for performing a comparison of the characteristic Hamming weight of the initial binary data with a predetermined value; and

a fourth set of machine executable instructions for processing the initial binary data based on the comparison to thereby develop processed binary data having a Hamming weight not less than the characteristic Hamming weight of the initial binary data; and

a fifth set of machine-executable instructions for conveying the processed binary data from the source to the destination via the channel.

89. (Original) The computer-readable medium of claim 88, wherein the second set of machine-executable instructions determines the characteristic Hamming weight of the initial binary data by counting one-valued bits in the initial binary data.

90. (Original) The computer-readable medium of claim 88, wherein the predetermined value is a predetermined minimum Hamming weight threshold value.

91. (Original) The computer-readable medium of claim 88, wherein the fourth set of machine-executable instructions bitwise inverts the initial binary data if the Hamming weight of the initial binary data is less than the predetermined value.

92. (Original) The computer-readable medium of claim 91, wherein the fourth set of machine-executable instructions supplies an indication of whether the Hamming weight of the initial binary data is less than the predetermined value.

93. (Original) The computer-readable medium of claim 92, wherein the indication comprises a binary digit having a first value if the Hamming weight of the initial binary data is less than the predetermined value and having a second value otherwise.

94. (Original) The computer-readable medium of claim 91, wherein the fourth set of machine-executable instructions supplies an indication of whether bits of the processed binary data are inverted.

95. (Original) The computer-readable medium of claim 94, wherein the indication comprises a binary digit having a first value if the bits of the processed binary data are inverted and having a second value otherwise.

96. (Original) The computer-readable medium of claim 88, wherein the fourth set of machine-executable instructions performs at least one of error correction coding, run-length encoding, and precoding.

97. (Original) The computer-readable medium of claim 96, wherein a symbol boundary of an encoded symbol does not change relative to error correction coding.

98. – 101.

102. (Original) A disk drive, comprising:

a data input for receiving initial binary data having a characteristic Hamming weight; and

a processor in communication with the data input for determining the characteristic Hamming weight of the initial binary data, performing a comparison of the characteristic Hamming weight of the initial binary data with a predetermined value, and processing the initial binary data based on the comparison to thereby develop processed binary data having a Hamming weight not less than the characteristic Hamming weight of the initial binary data.

103. (Original) The disk drive of claim 102, wherein processor determines the characteristic Hamming weight of the initial binary data by counting one-valued bits in the initial binary data.

104. (Original) The disk drive of claim 102, wherein the predetermined value is a predetermined minimum Hamming weight threshold value.

105. (Original) The disk drive of claim 102, wherein the processor bitwise inverts the initial binary data if the Hamming weight of the initial binary data is less than the predetermined value.

106. (Original) The disk drive of claim 105, wherein the processor supplies an indication of whether the Hamming weight of the initial binary data is less than the predetermined value.

107. (Original) The disk drive of claim 106, wherein the indication comprises a binary digit having a first value if the Hamming weight of the initial binary data is less than the predetermined value and having a second value otherwise.

108. (Original) The disk drive of claim 105, wherein the processor further supplies an indication of whether bits of the processed binary data are inverted.

109. (Original) The disk drive of claim 108, wherein the indication comprises a binary digit having a first value if the bits of the processed binary data are inverted and having a second value otherwise.

110. (Original) The disk drive of claim 102, wherein processing the initial binary data comprises performing at least one of error correction coding, run-length encoding, and precoding.

111. (Original) The disk drive of claim 110, wherein a symbol boundary of an encoded symbol does not change relative to error correction coding.

112. – 117. (Canceled)

118. (Original) A communication encoding apparatus, comprising:

obtaining means for obtaining initial binary data having a characteristic Hamming weight;

determining means for determining the characteristic Hamming weight of the initial binary data;

comparing means for performing a comparison of the characteristic Hamming weight of the initial binary data with a predetermined value; and

processing means for processing the initial binary data based on the comparison to thereby develop processed binary data having a Hamming weight not less than the characteristic Hamming weight of the initial binary data.

119. (Original) The apparatus of claim 118, wherein the determining means determines the characteristic Hamming weight of the initial binary data by counting one-valued bits in the initial binary data.

120. (Original) The apparatus of claim 118, wherein the predetermined value is a predetermined minimum Hamming weight threshold value.

121. (Original) The apparatus of claim 118, wherein processing means bitwise inverts the initial binary data if the Hamming weight of the initial binary data is less than the predetermined value.

122. (Original) The apparatus of claim 121, wherein processing means further comprises supplying means for supplying an indication of whether the Hamming weight of the initial binary data is less than the predetermined value.

123. (Original) The apparatus of claim 122, wherein the indication comprises a binary digit having a first value if the Hamming weight of the initial binary data is less than the predetermined value and having a second value otherwise.

124. (Original) The apparatus of claim 121, wherein the processing means further comprises supplying means for supplying an indication of whether bits of the processed binary data are inverted.

125. (Original) The apparatus of claim 124, wherein the indication comprises a binary digit having a first value if the bits of the processed binary data are inverted and having a second value otherwise.

126. (Original) The apparatus of claim 118, wherein the processing means comprises means for performing at least one of error correction coding, run-length encoding, and precoding.

127. (Original) The apparatus of claim 126, wherein a symbol boundary of an encoded symbol does not change relative to error correction coding.

128. (Previously Presented) A communication encoding apparatus, comprising:

receiving means for receiving initial binary data having a characteristic Hamming weight; and

processing means in communication with the data input for determining the characteristic Hamming weight of the initial binary data, performing a comparison of the characteristic Hamming weight of the initial binary data with a predetermined value, and processing the initial binary data based on the comparison to thereby develop processed binary data having a Hamming weight not less than the characteristic Hamming weight of the initial binary data.

129. (Previously Presented) The apparatus of claim 128, wherein processing means determines the characteristic Hamming weight of the initial binary data by counting one-valued bits in the initial binary data.

130. (Previously Presented) The apparatus of claim 128, wherein the predetermined value is a predetermined minimum Hamming weight threshold value.

131. (Previously Presented) The apparatus of claim 128, wherein the processing means bitwise inverts the initial binary data if the Hamming weight of the initial binary data is less than the predetermined value.

132. (Previously Presented) The apparatus of claim 131, wherein the processing means supplies an indication of whether the Hamming weight of the initial binary data is less than the predetermined value.

133. (Previously Presented) The apparatus of claim 132, wherein the indication comprises a binary digit having a first value if the Hamming weight of the initial binary data is less than the predetermined value and having a second value otherwise.

134. (Previously Presented) The apparatus of claim 131, wherein the processing means further supplies an indication of whether bits of the processed binary data are inverted.

135. (Previously Presented) The apparatus of claim 134, wherein the indication comprises a binary digit having a first value if the bits of the processed binary data are inverted and having a second value otherwise.

136. (Previously Presented) The apparatus of claim 128, wherein the processing means performs at least one of error correction coding, run-length encoding, and precoding.

137. (Previously Presented) The apparatus of claim 136, wherein a symbol boundary of an encoded symbol does not change relative to error correction coding.

138. – 154. (Canceled)

155. (Previously Presented) A disk drive, comprising:

receiving means for receiving initial binary data having a characteristic Hamming weight; and

processing means in communication with the data input for determining the characteristic Hamming weight of the initial binary data, performing a comparison of the characteristic Hamming weight of the initial binary data with a predetermined value, and processing the initial binary data based on the comparison to thereby develop processed binary data having a Hamming weight not less than the characteristic Hamming weight of the initial binary data.

156. (Previously Presented) The disk drive of claim 155, wherein processing means determines the characteristic Hamming weight of the initial binary data by counting one-valued bits in the initial binary data.

157. (Previously Presented) The disk drive of claim 155, wherein the predetermined value is a predetermined minimum Hamming weight threshold value.

158. (Previously Presented) The disk drive of claim 155, wherein the processing means bitwise inverts the initial binary data if the Hamming weight of the initial binary data is less than the predetermined value.

159. (Previously Presented) The disk drive of claim 158, wherein the processing means supplies an indication of whether the Hamming weight of the initial binary data is less than the predetermined value.

160. (Previously Presented) The disk drive of claim 159, wherein the indication comprises a binary digit having a first value if the Hamming weight of the initial binary data is less than the predetermined value and having a second value otherwise.

161. (Previously Presented) The disk drive of claim 158, wherein the processing means further supplies an indication of whether bits of the processed binary data are inverted.

162. (Previously Presented) The disk drive of claim 161, wherein the indication comprises a binary digit having a first value if the bits of the processed binary data are inverted and having a second value otherwise.

163. (Previously Presented) The disk drive of claim 155, wherein the processing means comprises means for performing at least one of error correction coding, run-length encoding, and precoding.

164. (Previously Presented) The disk drive of claim 163, wherein a symbol boundary of an encoded symbol does not change relative to error correction coding.

165. – 170. (Canceled)

171. (Previously Presented) A communication encoding apparatus, comprising:

an input for obtaining initial binary data having a characteristic Hamming weight;

a Hamming weight calculator for determining the characteristic Hamming weight of the initial binary data;

a comparator for performing a comparison of the characteristic Hamming weight of the initial binary data with a predetermined value; and

a processor for processing the initial binary data based on the comparison to thereby develop processed binary data having a Hamming weight not less than the characteristic Hamming weight of the initial binary data.

172. (Previously Presented) The apparatus of claim 171, wherein the Hamming weight calculator determines the characteristic Hamming weight of the initial binary data by counting one-valued bits in the initial binary data.

173. (Previously Presented) The apparatus of claim 171, wherein the predetermined value is a predetermined minimum Hamming weight threshold value.

174. (Previously Presented) The apparatus of claim 171, wherein the processor bitwise inverts the initial binary data if the Hamming weight of the initial binary data is less than the predetermined value.

175. (Previously Presented) The apparatus of claim 174, wherein the processor further supplies an indication of whether the Hamming weight of the initial binary data is less than the predetermined value.

176. (Previously Presented) The apparatus of claim 175, wherein the indication comprises a binary digit having a first value if the Hamming weight of the initial binary data is less than the predetermined value and having a second value otherwise.

177. (Previously Presented) The apparatus of claim 174, wherein the processor further supplies an indication of whether bits of the processed binary data are inverted.

178. (Previously Presented) The apparatus of claim 177, wherein the indication comprises a binary digit having a first value if the bits of the processed binary data are inverted and having a second value otherwise.

179. (Previously Presented) The apparatus of claim 171, wherein the processor further performs at least one of error correction coding, run-length encoding, and precoding.

180. (Previously Presented) The apparatus of claim 179, wherein a symbol boundary of an encoded symbol does not change relative to error correction coding.